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LAB MANUAL

for Computer Network

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## EXPERIMENT-1

**Aim**: Study of different types of Network cables and practically implement the cross-wired cable and straight through cable using clamping tool.

**Apparatus (Components):** RJ-45 connector, Climping Tool, Twisted pair Cable

**Procedure:** To do these practical following steps should be done:

1. Start by stripping off about 2 inches of the plastic jacket off the end of the cable. Be very careful at this point, as to not nick or cut into the wires, which are inside. Doing so could alter the characteristics of your cable, or even worse render is useless. Check the wires, **one more time** for nicks or cuts. If there are any, just whack the whole end off, and start over.
2. Spread the wires apart, but be sure to hold onto the base of the jacket with your other hand. You do not want the wires to become untwisted down inside the jacket. Category 5 cable must only have 1/2 of an inch of 'untwisted' wire at the end; otherwise it will be 'out of spec'. At this point, you obviously have ALOT more than 1/2 of an inch of un-twisted wire.
3. You have 2 end jacks, which must be installed on your cable. If you are using a pre-made cable, with one of the ends whacked off, you only have one end to install - the crossed over end. Below are two diagrams, which show how you need to arrange the cables for each type of cable end. Decide at this point which end you are making and examine the associated picture below.

## Diagram shows you how to prepare Cross wired connection



**Diagram shows you how to prepare straight through wired connection**



**EXPERIMENT-2**

**Aim:** Study of following Network Devices in Detail

* + Repeater
  + Hub
  + Switch
  + Bridge
  + Router
  + Gate Way

**Apparatus (Software):** No software or hardware needed.

**Procedure:** Following should be done to understand this practical.

1. **Repeater:** Functioning at Physical Layer. A **repeater** is an electronic device that receives a signal and retransmits it at a higher level and/or higher power, or onto the other side of an obstruction, so that the signal can cover longer distances. Repeater have two ports ,so cannot be use to connect for more than two devices

## Hub: An Ethernet hub, active hub, network hub, repeater hub, hub or concentrator

is a device for connecting multiple twisted pair or fiber optic Ethernet devices together and making them act as a single network segment. Hubs work at the physical layer (layer 1) of the OSI model. The device is a form of multiport repeater. Repeater hubs also participate in collision detection, forwarding a jam signal to all ports if it detects a collision.

1. **Switch:** A **network switch** or **switching hub** is a computer networking device that connects network segments. The term commonly refers to a network bridge that processes and routes data at the data link layer (layer 2) of the OSI model. Switches that additionally process data at the network layer (layer 3 and above) are often referred to as Layer 3 switches or multilayer switches.
2. **Bridge:** A **network bridge** connects multiple network segments at the data link layer (Layer 2) of the OSI model. In Ethernet networks, the term *bridge* formally means a device that behaves according to the IEEE 802.1D standard. A bridge and switch are very much alike; a switch being a bridge with numerous ports. *Switch* or *Layer 2 switch* is often used interchangeably with *bridge*. Bridges can analyze incoming data packets to determine if the bridge is able to send the given packet to another segment of the network.
3. **Router:** A **router** is an electronic device that interconnects two or more computer networks, and selectively interchanges packets of data between them. Each data packet contains address information that a router can use to determine if the source and destination are on the same network, or if the data packet must be transferred from one network to another. Where multiple routers are used in a large collection of interconnected networks, the routers exchange information about target system addresses, so that each router can build up a table showing the preferred paths between any two systems on the interconnected networks.
4. **Gate Way:** In a communications network, a network node equipped for interfacing with

another network that uses different protocols.

* + A gateway may contain devices such as protocol translators, impedance matching devices, rate converters, fault isolators, or signal translators as necessary to provide system interoperability. It also requires the establishment of mutually acceptable administrative procedures between both networks.
  + A protocol translation/mapping gateway interconnects networks with different network protocol technologies by performing the required protocol conversions.

## EXPERIMENT- 3

**Aim:** Study of network IP

* + Classification of IP address
  + Sub netting
  + Super netting

## Apparatus (Software): NA

**Procedure:** Following is required to be study under this practical.

* + Classification of IP address

As show in figure we teach how the ip addresses are classified and when they are used.

|  |  |  |
| --- | --- | --- |
| **Class** | **Address Range** | **Supports** |
| **Class A** | 1.0.0.1 to 126.255.255.254 | Supports 16 million hosts on each of 127 networks. |
| **Class B** | 128.1.0.1 to 191.255.255.254 | Supports 65,000 hosts on each of 16,000 networks. |
| **Class C** | 192.0.1.1 to 223.255.254.254 | Supports 254 hosts on each of 2 million networks. |
| **Class D** | 224.0.0.0 to 239.255.255.255 | Reserved for multicast groups. |
| **Class E** | 240.0.0.0 to 254.255.255.254 | Reserved. |

* + Sub netting

Why we Develop sub netting and How to calculate subnet mask and how to identify subnet address.

* + Super netting

Why we develop super netting and How to calculate supernet mask and how to identify supernet address.

## EXPERIMENT-4

**Aim:** Connect the computers in Local Area Network.

## Procedure: On the host computer

On the host computer, follow these steps to share the Internet connection:

1. Log on to the host computer as Administrator or as Owner.
2. Click **Start**, and then click **Control Panel**.

## Click Network and Internet Connections.

1. Click **Network Connections**.
2. Right-click the connection that you use to connect to the Internet. For example, if you connect to the Internet by using a modem, right-click the connection that you want under Dial-up / another network available.
3. Click **Properties**.
4. Click the **Advanced** tab.
5. Under **Internet Connection Sharing**, select the **Allow other network users to connect through this computer's Internet connection** check box.
6. If you are sharing a dial-up Internet connection, select the **Establish a dial-up connection whenever a computer on my network attempts to access the Internet** check box if you want to permit your computer to automatically connect to the Internet.
7. Click **OK**. You receive the following message:

When Internet Connection Sharing is enabled, your LAN adapter will be set to use IP address 192.168.0.1. Your computer may lose connectivity with other computers on your network. If these other computers have static IP addresses, it is a good idea to set them to obtain their IP addresses automatically. Are you sure you want to enable Internet Connection Sharing?

1. Click **Yes**.

The connection to the Internet is shared to other computers on the local area network (LAN).

The network adapter that is connected to the LAN is configured with a static IP address of 192.168.0.1 and a subnet mask of 255.255.255.0

## On the client computer

To connect to the Internet by using the shared connection, you must confirm the LAN adapter IP configuration, and then configure the client computer. To confirm the LAN adapter IP configuration, follow these steps:

1. Log on to the client computer as Administrator or as Owner.
2. Click **Start**, and then click **Control Panel**.

## Click Network and Internet Connections.

1. Click **Network Connections**.
2. Right-click **Local Area Connection** and then click **Properties**.
3. Click the **General** tab, click **Internet Protocol (TCP/IP)** in the **connection uses the following items** list, and then click **Properties**.
4. In the **Internet Protocol (TCP/IP) Properties** dialog box, click **Obtain an IP address automatically** (if it is not already selected), and then click **OK**.

**Note:** You can also assign a unique static IP address in the range of 192.168.0.2 to 192.168.0.254. For example, you can assign the following static IP address, subnet mask, and default gateway:

8. IP Address 192.168.31.202

9. Subnet mask 255.255.255.0

1. Default gateway 192.168.31.1
2. In the **Local Area Connection Properties** dialog box, click **OK**.
3. Quit Control Panel.

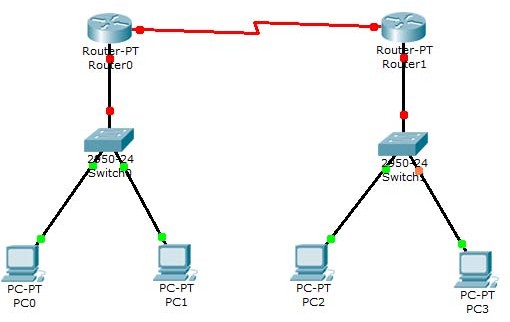
## EXPERIMENT-13

**Aim:** Configure a Network topology using packet tracer software.

**Apparatus (Software):** Packet tracer Software

**Procedure:** To implement this practical following network topology is required to be configured using the commands learned in previous practical.

After configuring the given network a packet should be ping from any one machine to another.



**Router0 Configuration Command.........**

Router>enable Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 192.168.0.254 255.255.255.0 Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#exit

%SYS-5-CONFIG\_I: Configured from console by console Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#interface FastEthernet0/0

Router(config-if)# Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 192.168.1.1 255.255.255.0 Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down Router(config-if)#exit

Router(config)#exit

%SYS-5-CONFIG\_I: Configured from console by console Router#wr

Building configuration... [OK]

Router#show running-config Building configuration...

Current configuration : 542 bytes

!

version 12.2

no service password-encryption

!

hostname Router

!

!

!

!

!

ip ssh version 1

!

!

interface FastEthernet0/0

ip address 192.168.0.254 255.255.255.0

duplex auto speed auto

!

interface FastEthernet1/0 no ip address

duplex auto speed auto shutdown

!

interface Serial2/0

ip address 192.168.1.1 255.255.255.0

!

interface Serial3/0 no ip address shutdown

!

interface FastEthernet4/0 no ip address

shutdown

!

interface FastEthernet5/0 no ip address

shutdown

!

ip classless

!

!

!

!

!

line con 0

line vty 0 4 login

!

!

end

Router#

**Router1 Configuration Command.......**

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#interface Serial2/0

Router(config-if)#ip address 192.168.1.2 255.255.255.0 Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to up Router(config-if)#exit

Router(config)#exit

%SYS-5-CONFIG\_I: Configured from console by console Router#config t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#

Router(config)#interface Serial2/0 Router(config-if)#

Router(config-if)#exit Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 192.168.2.254 255.255.255.0 Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit Router(config)#exit

%SYS-5-CONFIG\_I: Configured from console by console Router#wr

Building configuration... [OK]

Router#

Router#show running-config Building configuration...

Current configuration : 542 bytes

!

version 12.2

no service password-encryption

!

hostname Router

!

!

!

!

!

ip ssh version 1

!

!

interface FastEthernet0/0

ip address 192.168.2.254 255.255.255.0

duplex auto speed auto

!

interface FastEthernet1/0 no ip address

duplex auto speed auto shutdown

!

interface Serial2/0

ip address 192.168.1.2 255.255.255.0

!

interface Serial3/0 no ip address shutdown

!

interface FastEthernet4/0 no ip address

shutdown

!

interface FastEthernet5/0 no ip address

shutdown

!

ip classless

!

!

!

!

!

line con 0

line vty 0 4 login

!

!

end

Router#

## IP ROUTE Command.....

Router#config t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.2.2 Router(config)#exit

Router#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR P - periodic downloaded static route

Gateway of last resort is not set

C 192.168.2.0/24 is directly connected, FastEthernet0/0

C 192.168.1.2/24 is directly connected, Serial2/0

S 192.168.2.0/24 [1/0] via 192.168.1.2

Router#

## IP ROUTE Command.....

Router>enable Router#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR P - periodic downloaded static route

Gateway of last resort is not set

S 192.168.0.0/24 [1/0] via 192.168.1.1

C 192.168.0.0/24 is directly connected, FastEthernet0/0

C 192.168.1.1/24 is directly connected, Serial2/0

Router#

## EXPERIMENT- 14

**Aim:** Configure a Network using Distance Vector Routing protocol.

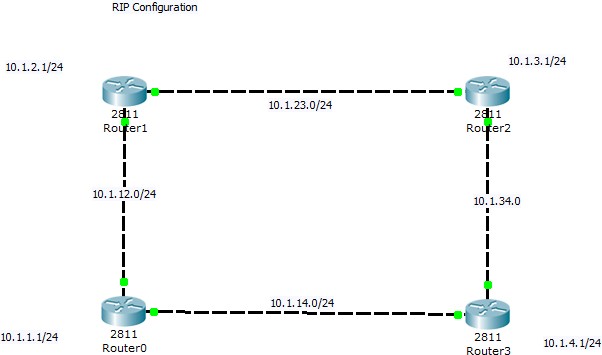
* RIP

**Apparatus (Software):** packet tracer software

## Procedure:

1. Develop a Topology shown in figure given below.

1. Configure all Routers
2. Implement RIP protocols in Router to configure Network.



**Router0 configuration.....**

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started! Router>

Router>en Router#config t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#hostname router0 router0(config)#int lo0

%LINK‐5‐CHANGED: Interface Loopback0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface Loopback0, changed state to up router0(config‐if)#ip address 10.1.1.1 255.255.255.0

router0(config‐if)#int f0/0

router0(config‐if)#ip address 10.1.12.1 255.255.255.0 router0(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/0, changed state to up router0(config‐if)#int f0/1

router0(config‐if)#ip address 10.1.14.1 255.255.255.0 router0(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/1, changed state to up router0(config‐if)#end

%SYS‐5‐CONFIG\_I: Configured from console by console router0#wr

Building configuration... [OK]

router0# router0#

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up router0 con0 is now available

Press RETURN to get started.

router0> router0>en router0#config t

Enter configuration commands, one per line. End with CNTL/Z. router0(config)#router rip

router0(config‐router)#net 10.0.0.0 router0(config‐router)# router0(config‐router)#end

%SYS‐5‐CONFIG\_I: Configured from console by console router0#show ip route

Codes: C ‐ connected, S ‐ static, I ‐ IGRP, R ‐ RIP, M ‐ mobile, B ‐ BGP D ‐ EIGRP, EX ‐ EIGRP external, O ‐ OSPF, IA ‐ OSPF inter area

N1 ‐ OSPF NSSA external type 1, N2 ‐ OSPF NSSA external type 2 E1 ‐ OSPF external type 1, E2 ‐ OSPF external type 2, E ‐ EGP

i ‐ IS‐IS, L1 ‐ IS‐IS level‐1, L2 ‐ IS‐IS level‐2, ia ‐ IS‐IS inter area

\* ‐ candidate default, U ‐ per‐user static route, o ‐ ODR P ‐ periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 3 subnets

C 10.1.1.0 is directly connected, Loopback0

C 10.1.12.0 is directly connected, FastEthernet0/0 C 10.1.14.0 is directly connected, FastEthernet0/1 router0#

router0#

**Router1 Configuration.....**

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable Router#config t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#int lo0

%LINK‐5‐CHANGED: Interface Loopback0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface Loopback0, changed state to up Router(config‐if)#ip address 10.1.2.1 255.255.255.0

Router(config‐if)#no shut Router(config‐if)#int f0/1

Router(config‐if)#ip address 10.1.23.1 255.255.255.0 Router(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/1, changed state to up Router(config‐if)#int f0/0

Router(config‐if)#ip address 10.1.12.2 255.255.255.0 Router(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up Router(config‐if)#end

%SYS‐5‐CONFIG\_I: Configured from console by console Router#wr

Building configuration...

[OK]

Router# Router# Router#

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up Router con0 is now available

Press RETURN to get started.

Router> Router>en Router#con t

% Ambiguous command: "con t" Router#co t

% Ambiguous command: "co t" Router#conf t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#router rip

Router(config‐router)#net 10.0.0.0 Router(config‐router)# Router(config‐router)# Router(config‐router)#end

%SYS‐5‐CONFIG\_I: Configured from console by console Router#

**Router2 Configuration.....**

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started! Router>en

Router#config t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#int lo0

%LINK‐5‐CHANGED: Interface Loopback0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface Loopback0, changed state to up Router(config‐if)#ip address 10.1.3.1 255.255.255.0

Router(config‐if)#no shut Router(config‐if)#int f0/0

Router(config‐if)#ip address 10.1.23.2 255.255.255.0 Router(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up Router(config‐if)#int f0/1

Router(config‐if)#ip address 10.1.34.1 255.255.255.0 Router(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/1, changed state to up Router(config‐if)#End

%SYS‐5‐CONFIG\_I: Configured from console by console

Router#wr

Building configuration...

[OK]

Router# Router# Router#

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router con0 is now available

Press RETURN to get started.

Router> Router> Router>en

Router#show ip route

Codes: C ‐ connected, S ‐ static, I ‐ IGRP, R ‐ RIP, M ‐ mobile, B ‐ BGP D ‐ EIGRP, EX ‐ EIGRP external, O ‐ OSPF, IA ‐ OSPF inter area

N1 ‐ OSPF NSSA external type 1, N2 ‐ OSPF NSSA external type 2 E1 ‐ OSPF external type 1, E2 ‐ OSPF external type 2, E ‐ EGP

i ‐ IS‐IS, L1 ‐ IS‐IS level‐1, L2 ‐ IS‐IS level‐2, ia ‐ IS‐IS inter area

\* ‐ candidate default, U ‐ per‐user static route, o ‐ ODR P ‐ periodic downloaded static route

Gateway of last resort is not set 10.0.0.0/24 is subnetted, 3 subnets

C 10.1.3.0 is directly connected, Loopback0

C 10.1.23.0 is directly connected, FastEthernet0/0 C 10.1.34.0 is directly connected, FastEthernet0/1 Router#config t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#router rip

Router(config‐router)#net 10.0.0.0 Router(config‐router)#end

%SYS‐5‐CONFIG\_I: Configured from console by console Router#

Router# Router#show ip route

Codes: C ‐ connected, S ‐ static, I ‐ IGRP, R ‐ RIP, M ‐ mobile, B ‐ BGP D ‐ EIGRP, EX ‐ EIGRP external, O ‐ OSPF, IA ‐ OSPF inter area

N1 ‐ OSPF NSSA external type 1, N2 ‐ OSPF NSSA external type 2 E1 ‐ OSPF external type 1, E2 ‐ OSPF external type 2, E ‐ EGP

i ‐ IS‐IS, L1 ‐ IS‐IS level‐1, L2 ‐ IS‐IS level‐2, ia ‐ IS‐IS inter area

\* ‐ candidate default, U ‐ per‐user static route, o ‐ ODR P ‐ periodic downloaded static route

Gateway of last resort is not set 10.0.0.0/24 is subnetted, 7 subnets

R 10.1.1.0 [120/2] via 10.1.23.1, 00:00:19, FastEthernet0/0

R 10.1.2.0 [120/1] via 10.1.23.1, 00:00:19, FastEthernet0/0

C 10.1.3.0 is directly connected, Loopback0

R 10.1.12.0 [120/1] via 10.1.23.1, 00:00:19, FastEthernet0/0

R 10.1.14.0 [120/2] via 10.1.23.1, 00:00:19, FastEthernet0/0

C 10.1.23.0 is directly connected, FastEthernet0/0

C 10.1.34.0 is directly connected, FastEthernet0/1 Router#

Router# Router#

**Router3 Configuration.......**

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started! Router>

Router>en Router#config t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#int lo0

%LINK‐5‐CHANGED: Interface Loopback0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface Loopback0, changed state to up Router(config‐if)#int f0/0

Router(config‐if)#ip address 10.1.34.2 255.255.255.0 Router(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up Router(config‐if)#

Router(config‐if)#int f0/1

Router(config‐if)#ip address 10.1.14.2 255.255.255.0 Router(config‐if)#no shut

%LINK‐5‐CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO‐5‐UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up Router(config‐if)#end

%SYS‐5‐CONFIG\_I: Configured from console by console Router#wr

Building configuration...

[OK]

Router# Router#

Router#show ip route

Codes: C ‐ connected, S ‐ static, I ‐ IGRP, R ‐ RIP, M ‐ mobile, B ‐ BGP D ‐ EIGRP, EX ‐ EIGRP external, O ‐ OSPF, IA ‐ OSPF inter area

N1 ‐ OSPF NSSA external type 1, N2 ‐ OSPF NSSA external type 2 E1 ‐ OSPF external type 1, E2 ‐ OSPF external type 2, E ‐ EGP

i ‐ IS‐IS, L1 ‐ IS‐IS level‐1, L2 ‐ IS‐IS level‐2, ia ‐ IS‐IS inter area

\* ‐ candidate default, U ‐ per‐user static route, o ‐ ODR P ‐ periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 2 subnets

C 10.1.14.0 is directly connected, FastEthernet0/1 C 10.1.34.0 is directly connected, FastEthernet0/0 Router#conf t

Enter configuration commands, one per line. End with CNTL/Z. Router(config)#router rip

Router(config‐router)#net 10.0.0.0 Router(config‐router)#

Router(config‐router)#end

%SYS‐5‐CONFIG\_I: Configured from console by console Router#show ip route

Codes: C ‐ connected, S ‐ static, I ‐ IGRP, R ‐ RIP, M ‐ mobile, B ‐ BGP D ‐ EIGRP, EX ‐ EIGRP external, O ‐ OSPF, IA ‐ OSPF inter area

N1 ‐ OSPF NSSA external type 1, N2 ‐ OSPF NSSA external type 2 E1 ‐ OSPF external type 1, E2 ‐ OSPF external type 2, E ‐ EGP

i ‐ IS‐IS, L1 ‐ IS‐IS level‐1, L2 ‐ IS‐IS level‐2, ia ‐ IS‐IS inter area

\* ‐ candidate default, U ‐ per‐user static route, o ‐ ODR P ‐ periodic downloaded static route

Gateway of last resort is not set 10.0.0.0/24 is subnetted, 7 subnets

R 10.1.1.0 [120/1] via 10.1.14.1, 00:00:09, FastEthernet0/1

R 10.1.2.0 [120/2] via 10.1.34.1, 00:00:14, FastEthernet0/0

[120/2] via 10.1.14.1, 00:00:09, FastEthernet0/1

R 10.1.3.0 [120/1] via 10.1.34.1, 00:00:14, FastEthernet0/0

R 10.1.12.0 [120/1] via 10.1.14.1, 00:00:09, FastEthernet0/1

C 10.1.14.0 is directly connected, FastEthernet0/1

R 10.1.23.0 [120/1] via 10.1.34.1, 00:00:14, FastEthernet0/0

C 10.1.34.0 is directly connected, FastEthernet0/0 Router#

## EXPERIMENT- 15

**Aim:** Configure Network using Link State Vector Routing protocol.

* OSPF

**Apparatus (Software):** Packet Tracer Software

## Procedure:

1. Develop a Topology shown in figure given below.
2. Configure all the workstations
3. Configure all switches
4. Configure all Routers
5. Implement OSPF protocols in Router to configure Network.

